

A NEW SPECIES OF LATE OLIGOCENE DOG, *BRACHYRHYNCHOCYON SESNONI*, FROM SOUTH DAKOTA

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ABSTRACT: *Brachyrhynchocyon sesnoni* is described from the middle of the Poleslide member of the Brule formation in the White River Badlands of South Dakota. Although younger than the genotypic species, *B. intermedius* (Loomis) from the Orellan of Wyoming, it is not the latest record of the genus as an undescribed species has been found in the overlying Arkikareean Sharps formation.

Recent collecting in the White River Badlands along the wall of the badlands on the south side of the White River by Los Angeles County Museum of Natural History field parties has been directed at finding ancestral forms of the mammalian species in the overlying Arikareean Sharps formation. A by-product of this effort was the expansion of the Museum's reference collection of Whitneyan forms and the discovery of several undescribed mammals. The specimen described below was found by Harley Garbani in 1964, while a Museum field party was working this area under the auspices of National Science Foundation Grant GB-3.

***Brachyrhynchocyon sesnoni*, new species**

Figures 1 and 2

Type: LACM 17039, partial skull with I^3 - M^2 , canine - M_3 , and miscellaneous skeletal fragments.

Locality and Horizon: LACM loc. no. 2002, Wolff Ranch Badlands, Shannon County, South Dakota. Poleslide member of Brule formation in ten foot red layer lying 110 to 120 feet above base of Poleslide member and 130 to 140 feet below the base of the Sharps formation.

Diagnosis: Premolars laterally compressed, P_{3-4} with anterior cingular cusps and posterior accessory cusps, tall principal cusps; M_3 with subequal protoconid and metaconid, basined talonid; P^{1-3} not crowded; palate tapered, P^4 with deutercone extending slightly anterad of parastyle.

Description: I^{1-2} missing; I^3 large, laterally compressed; separated from canine by diastema. Canine large, broken. P^1 small, laterally compressed; single cusped; single rooted; separated from canine and P^2 by short diastema. P^2 laterally compressed; apex of principal cusp above center of tooth; small posterior accessory cusp and posterior cingular cusp; separated from P^3 by short diastema. P^3 with greatest transverse diameter at principal cusp; apex of

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Figure 1. *Brachyrhynchocyon sesnani*, new species, LACM 17039. Partial cranium with 1st-M²; palatal and labial views. (To be viewed with a stereoscope. Ca. X1.)

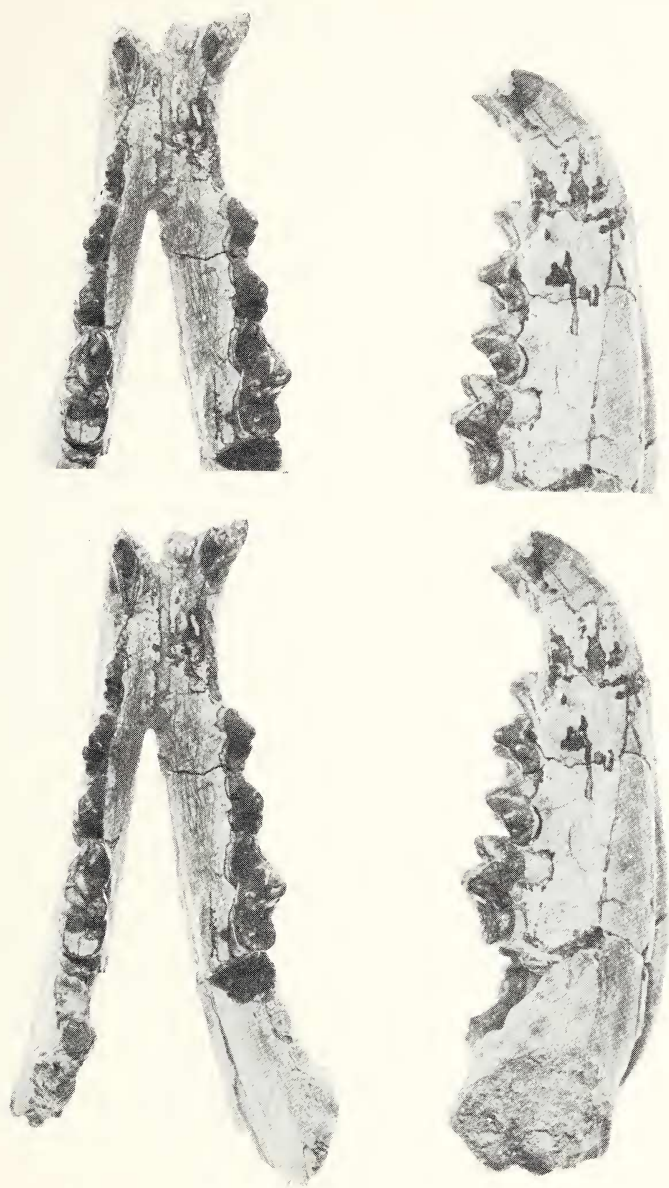


Figure 2. *Brachyrhynchocyon sesnani*, new species, LACM 17039. Jaws with canine-M₁; occlusal and labial views. (To be viewed with a stereoscope. Ca. X1.)

TABLE 1

Measurements in millimeters of types of
Brachyrhynchocyon sesnoni and *B. intermedius*

Character	<i>B. sesnoni</i>		<i>B. intermedius</i> (after Loomis, 1931)
	Right	Left	
I ³ a-p	4.4		
tr.	3.0		
P ¹ a-p		3.3	
tr.		2.8	
P ² a-p	7.1		
tr.	3.05	2.85	
P ³ a-p	9.6	7.1	
tr.	4.3		
P ⁴ a-p (to parastyle)	13.8	13.9	
tr.	8.3		
M ¹ a-p	ca. 10.00		
tr.	ca. 15.00		
M ² a-p	5.6	ca. 5.9	
tr.	ca. 9.4	ca. 8.8	
P ¹ -M ²		50.65	45.0
P ₂ a-p		ca. 7.5	
tr.		2.45	
P ₃ a-p	8.4	8.7	
tr.	3.8	3.45	
P ₄ a-p	9.9	10.1	
tr.	4.8	4.35	
M ₁ a-p	15.2	15.6	
tr.	6.8	ca. 6.8	
M ₃ a-p		5.0	
tr.		3.8	
P ₁ -M ₃		ca. 55.6	53.0

principal cusp above anterior end of posterior root; small well-defined posterior accessory cusp and posterior cingular cusp. P^4 with small well-developed deutocone extending antero-lingually, projecting slightly anterad of parastyle; parastyle broadly rounded; protocone and metastyle worn, separated by open carnassial notch. M^1 heavily worn; antero-labial corner less rounded, more angular than indicated by Loomis (1931: fig. 2). M^2 worn; paracone and metacone subequal. I_{1-2} missing. I_3 root only; laterally compressed. Canine broken; large. P_1 root only; separated from canine and P_2 by diastema. P_2 laterally compressed; low silhouette; apex of principal cusp worn away; small anterior and posterior accessory cusps; small posterior cingular cusp. P_3 similar to P_2 ; more robust; greatest transverse diameter between posterior cusps. P_4 slightly larger than P_3 ; greatest transverse diameter between principal cusp and posterior accessory cusp. M_1 heavily worn; paraconid and protoconid widely separated; metaconid small, extending slightly posterad of protoconid; talonid heavily worn, showing presence of strong hypoconid and moderately developed entoconid. M_2 worn to essentially featureless plain. M_3 greatly reduced; paraconid, if present, broken away; protoconid and metaconid form transverse crest; talonid slightly basined, opening labially. Symphysis long; extending to posterior end of P_2 . Large mental foramen below center of P_2 , small one below anterior edge of posterior root of P_3 .

Discussion: The lower P_{2-4} of *B. sesnoni* have anterior cingular cusps which are not found in *B. intermedius* (Loomis, 1931) but are found in an undescribed Wounded Knee-Sharps species; there is more lateral compression of these teeth than in the older and younger species. The M_3 has not been found in recorded specimens of the Brule species and is not as reduced as in the Sharps species. The canines in *B. sesnoni* do not dominate the symphyseal region as they do in the Sharps form. The palate tapers from P^4 to P^1 while Loomis indicates an abrupt narrowing in *B. intermedius* at the P^4 with the anterior premolars in parallel rows.

The distal end of the humerus is somewhat catlike in aspect. It is flattened and laterally expanded with a wide internal condyle and a small entepicondylar foramen.

This species is named for Mr. William T. Sesnon, Jr., Chairman of the Board of Governors, Los Angeles County Museum of Natural History, and patron of Vertebrate Paleontology.

LITERATURE CITED

Loomis, F. B.

1931. A new Oligocene dog. Amer. J. Sci., 22(4):100-102.